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EXAMINER

THOMPSON, JAMES A

ART UNIT PAPER NUMBER

2624

DATE MAILED: 11/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/630,435	Applicant(s) TAI ET AL.	
	Examiner James A Thompson	Art Unit 2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-39 is/are rejected.
- 7) ☒ Claim(s) 27-30 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 May 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 22 October 2004 have been fully considered but they are not persuasive.

Examiner notes the cancelled claims and the newly entered claims. Claims 13-39 are taught by the prior art, as discussed in the prior art rejections below.

Claim Objections

2. Claims 27-30 are objected to because of the following informalities:

Claim 27 is not formatted properly. Either line 3 should read "level image data (RIP Data); and" and line 5 should read "adjustments, and subjecting..."; or lines 5-6 should read:

"adjustments; and

"[some form of subjecting means] for subjecting...".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 27-30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The language of claim 27 is not clear. Does Applicant intend to recite that the image processor is for altering and

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subjecting, or does Applicant intend to recite a separate means or apparatus unit for subjecting? Claim 27 should be written so as to make this clear since claim 27, as currently recited, is ambiguous in this regard.

5. Claims 15 and 29 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 15 recites the limitation "the blending operation" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 29 recites the limitation "the blending operation" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim Groupings

6. The apparatus of claim 27 performs the method of claim 13. The apparatus of claim 31 is embodied within the apparatus recited in claim 27. Claims 13, 27 and 31 are therefore discussed together.

The apparatus of claim 36 performs the method of claim 22. Claims 22 and 36 are therefore discussed together.

Claims 14, 19, 24, 28, 33 and 38 are discussed together since they share the same limitations, as discussed in more detail below. Claims 15, 20, 25, 29, 34 and 39 are discussed together since they share the same limitations, as discussed in more detail below. Claims 16, 21, 26, 30 and 35 are discussed together since they share the same limitations, as discussed in more detail below. Claims 18, 32 and 37 are discussed together

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since they share the same limitations. The limitations of claim 37 are embodied in the limitations of claim 32.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 13, 17, 22, 27, 31 and 36 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamaguchi (US Patent 5,832,301).

Regarding claims 13, 27 and 31: Yamaguchi discloses an apparatus (figure 1 and column 2, lines 32-44 of Yamaguchi) comprising a raster image processor (RIP) (figure 4 of Yamaguchi) to provide rasterized color separated (column 4, lines 40-42 of Yamaguchi) contone gray level image data (RIP Data) (column 7, lines 2-6 of Yamaguchi); and an image processor (figure 6(700) and column 5, lines 9-10 of Yamaguchi) for altering the RIP Data in accordance with an operator's adjustments (column 5, lines 16-20 of Yamaguchi), and subjecting the altered RIP Data to a halftone process to generate halftone rendered gray level data (column 5, lines 23-27 of Yamaguchi). Since the resultant image data is output to a color printer unit to obtain a printed image (column 5, lines 23-37 of Yamaguchi), then the altered RIP Data must inherently be halftone processed to generate halftone rendered gray level data. Otherwise, it would not be possible to obtain a printed image.

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Regarding claim 17: Yamaguchi discloses rasterizing the input digital image into rasterized image data (RID) (column 7, lines 2-6 of Yamaguchi); separating the RID into separated rasterized contone gray level image data (column 7, lines 11-16 and column 3, lines 27-31 of Yamaguchi); and altering the separated rasterized contone gray level image data in accordance with an operator's adjustments (column 5, lines 16-20 of Yamaguchi).

Regarding claims 22 and 36: Yamaguchi discloses an apparatus (figure 1 and column 2, lines 32-44 of Yamaguchi) comprising a raster image processor (RIP) (figure 4 of Yamaguchi) to provide rasterized CMYK (column 3, lines 36-40 of Yamaguchi) image data (RIP Data) (column 7, lines 2-6 of Yamaguchi); and an image processor (figure 6(700) and column 5, lines 9-10 of Yamaguchi) for separating the RIP Data into separated CMYK image data (column 5, lines 23-27 of Yamaguchi), and altering the separated CMYK image data in accordance with an operator's adjustments (column 5, lines 16-20 of Yamaguchi). The image data is originally scanned in and converted into CMYK image data (column 36-40 of Yamaguchi). The RIP data that is stored and altered according to the operator's adjustments (column 5, lines 16-20 of Yamaguchi) is used for printing a color printed image (column 5, lines 23-27 of Yamaguchi). Therefore said image processor must inherently separate the RIP data into separated CMYK image data in order to perform conversions (column 5, lines 16-20 of Yamaguchi) and transmit the data for printing (column 5, lines 23-27 of Yamaguchi). Otherwise, the image data will not be in a form that can be printed.

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Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 14, 16, 18-19, 21, 23-24, 26, 28, 30, 32-33, 35 and 37-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamaguchi (US Patent 5,832,301) in view of Hayashi (US Patent 5,790,282).

Regarding claims 14, 19, 24, 28, 33 and 38: Yamaguchi does not disclose expressly that the image processor subjects the altered (or changed) image data to first and second halftone processes and then blends the respective outputs from the first and second halftone processes. In claims 14, 28 and 33, said image data is RIP Data. In claim 19, said image data is separated rasterized contone gray level image data. In claims 24 and 38, said image data is separated CMYK image data. The image data is operated upon in claims 14, 19, 24, 28, 33 and 38 in the same way. The image data that is input has already been discussed in the rejections under 35 U.S.C. §102(b), listed above in items 7-8.

Hayashi discloses subjecting image data to a first halftone process (figure 2(46) and column 4, lines 63-67 of Hayashi) and a second halftone process (figure 2(47) and column 4, line 67 to column 5, line 3 of Hayashi), and then blending the respective outputs from said first and second halftone processes (figure

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2(48) and column 5, lines 3-6 of Hayashi). The image data is saturation adjusted by the color correction circuit (figure 2(43) and column 5, lines 18-20 of Hayashi). Said image data is then sent through two halftone processing devices. Said devices are the image quality correction circuit (figure 2(46) and column 4, lines 63-67 of Hayashi) and the gradation adjustment circuit (figure 2(47) and column 4, line 67 to column 5, line 3 of Hayashi). Since the CMYK halftone data is processed by passing said CMYK halftone data successively through said image quality correction circuit and said gradation adjustment circuit, said CMYK halftone data is effectively blended since factors from both operations have adjusted said CMYK halftone data before being sent to the output processor (figure 2(48) and column 5, lines 3-6 of Hayashi).

Yamaguchi and Hayashi are combinable because they are from the same field of endeavor, namely halftoning and image processing. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to perform the two halftone processes and the blending process taught by Hayashi to the image data with the image processor taught by Yamaguchi. The motivation for doing so would have been that both halftone operations improve the overall quality of the resultant image (column 4, lines 65-67 and column 5, lines 1-3 of Hayashi). Therefore, it would have been obvious to combine Hayashi with Yamaguchi to obtain the invention as specified in claims 14, 19, 24, 28, 33 and 38.

Regarding claims 16, 21, 26, 30 and 35: Yamaguchi does not disclose expressly that the image data is recorded on a recording surface as a color separation image, and plural color separation images are recorded and eventually transferred to a

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receiver sheet in superposed registered relationship to form a processed color image. In claims 16, 30 and 35, said image data is RIP Data. In claim 21, said image data is separated rasterized contone gray level image data. In claim 26, said image data is separated CMYK image data. The image data is operated upon in claims 16, 21, 26, 30 and 35 in the same way. The image data that is input has already been discussed in the rejections under 35 U.S.C. §102(b), listed above in items 7-8.

Hayashi discloses that image data is recorded on a recording surface (column 3, lines 35-54 of Hayashi) as a color separation image (column 3, lines 33-34 and lines 60-67 of Hayashi), and plural color separation images are recorded and eventually transferred to a receiver sheet in superposed registered relationship (column 3, lines 54-59 of Hayashi) to form a process color image (column 3, lines 60-67 of Hayashi).

Yamaguchi and Hayashi are combinable because they are from the same field of endeavor, namely halftoning and image processing. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to print an image and plural color separation images on a receiver sheet in superposed registered relationship, as taught by Hayashi. The motivation for doing so would have been to provide an output for the resultant color image (column 3, lines 33-34 of Hayashi). Therefore, it would have been obvious to combine Hayashi with Yamaguchi to obtain the invention as specified in claims 16, 21, 26, 30 and 35.

Regarding claims 18, 32 and 37: Yamaguchi discloses that the RIP Data (RID) is color separated contone gray level image data (column 5, lines 11-17 of Yamaguchi) and wherein the image processor subjects the altered RIP Data to a halftone process to

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generate halftone rendered gray level data (column 5, lines 23-27 of Yamaguchi). Since the resultant image data is output to a color printer unit to obtain a printed image (column 5, lines 23-37 of Yamaguchi), then the altered RIP Data must inherently be halftone processed to generate halftone rendered gray level data. Otherwise, it would not be possible to obtain a printed image.

Regarding claims 23: Yamaguchi discloses subjecting the altered separated CMYK image data to a halftone process to generate halftone rendered gray level data (column 5, lines 23-27 of Yamaguchi). Since the resultant image data is output to a color printer unit to obtain a printed image (column 5, lines 23-37 of Yamaguchi), then the altered RIP Data must inherently be halftone processed to generate halftone rendered gray level data. Otherwise, it would not be possible to obtain a printed image.

11. Claims 15, 20, 25, 29, 34 and 39 rejected under 35 U.S.C. 103(a) as being unpatentable over Yamaguchi (US Patent 5,832,301) in view of Hayashi (US Patent 5,790,282) and Miller (US Patent 5,731,823).

Regarding claims 15, 20, 25, 29, 34 and 39: Yamaguchi does not disclose expressly that the image processor modifies the output of the blending operation into a binary file and subjects the binary image file to an edge enhancement process to reduce the jaggedness in the image.

Hayashi discloses modifying the output of the blending operation into a binary image file. After the image data is processed, said image data is sent to the output control circuit, which then generates the signals needed to output said

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image data (column 5, lines 1-6 of Hayashi). In order to output said image data after processing, the creation of a binary image file for the output in some form, whether on a hard drive, in RAM, et cetera, is inherently required. Otherwise, there would no longer be any data to access for the purpose of output.

Yamaguchi and Hayashi are combinable because they are from the same field of endeavor, namely halftoning and image processing. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to take the output of the blending operation and modify said output into a binary image file, as taught by Hayashi. The motivation for doing so would have been to have the binary data with which to produce an output signal for the printer (column 5, lines 4-6 of Hayashi). Therefore, it would have been obvious to combine Hayashi with Yamaguchi.

Yamaguchi in view of Hayashi does not disclose expressly that the image processor subjects the binary image file to an edge enhancement process to reduce jaggedness in the image.

Miller discloses subjecting the binary image file to an edge enhancement process to reduce jaggedness in the image (column 9, lines 50-52 of Miller).

Yamaguchi in view of Hayashi is combinable with Miller because they are from the same field of endeavor, namely halftoning and image processing. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to enhance the edges in the binary image file, thus reducing the jaggedness in the image. The motivation for doing so would have been to enhance the edge definition in the image (column 9, lines 51-52 of Miller). Therefore, it would have been obvious

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to combine Miller with Yamaguchi in view of Hayashi to obtain the invention as specified in claims 15, 20, 25, 29, 34 and 39.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James A Thompson whose telephone number is 703-305-6329. The examiner can normally be reached on 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David K Moore can be reached on 703-308-7452. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

James A. Thompson
Examiner
Art Unit 2624

JAT
12 November 2004



THOMAS A.
TOMMY LEE
PRIMARY EXAMINER